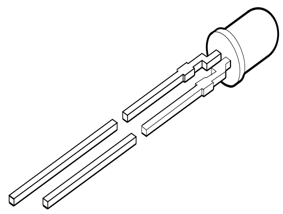
SIEMENS

# Hyper 3 mm (T1) LED, Diffused
# Hyper-Bright, Wide-Angle LED

# LS 3386, LA 3386, LO 3386
# LY 3386



**Besondere Merkmale**

- eingefärbtes, diffuses Gehäuse
- zur Einkopplung in Lichtleiter
- als optischer Indikator einsetzbar
- Lötspieße mit Aufsetzebene
- gegurtet lieferbar
- Störimpulsfest nach DIN 40839

**Features**

- colored, diffused package
- optical coupling into light pipes
- for use as optical indicator
- solder leads with stand-off
- available taped on reel
- load dump resistant acc. to DIN 40839

| **Typ** **Type** | **Emissionsfarbe** **Color of Emission** | **Gehäusefarbe** **Color of Package** | **Lichtstärke** **Luminous Intensity** $I_F$ **= 20 mA** $I_V$ **(mcd)** | **Bestellnummer** **Ordering Code** |
|---|---|---|---|---|
| LS 3386-LP | super-red | red diffused | 10 ... 80 | Q62703-Q3579 |
| LS 3386-M | | | 16 ... 32 | Q62703-Q3581 |
| LS 3386-N | | | 25 ... 50 | Q62703-Q3582 |
| LS 3386-P | | | 40 … 80 | Q62703-Q3709 |
| LS 3386-MQ | | | 16 … 125 | Q62703-Q3580 |
| LA 3386-MQ | amber | orange diffused | 16 … 125 | Q62703-Q3886 |
| LA 3386-N | | | 25 … 50 | Q62703-Q3887 |
| LA 3386-P | | | 40 … 80 | Q62703-Q3888 |
| LA 3386-Q | | | 63 … 125 | Q62703-Q3889 |
| LA 3386-NR | | | 25 … 200 | Q62703-Q3890 |
| LO 3386-MQ | orange | orange diffused | 16 … 125 | Q62703-Q3891 |
| LO 3386-N | | | 25 … 50 | Q62703-Q3892 |
| LO 3386-P | | | 40 … 80 | Q62703-Q3893 |
| LO 3386-Q | | | 63 … 125 | Q62703-Q3894 |
| LO 3386-NR | | | 25 … 200 | Q62703-Q3895 |
| LY 3386-MQ | yellow | yellow diffused | 16 … 125 | Q62703-Q3896 |
| LY 3386-N | | | 25 … 50 | Q62703-Q3897 |
| LY 3386-P | | | 40 … 80 | Q62703-Q3898 |
| LY 3386-Q | | | 63 … 125 | Q62703-Q3899 |
| LY 3386-NR | | | 25 … 200 | Q62703-Q3900 |

Streuung der Lichtstärke in einer Verpackungseinheit $I_{V\,max} / I_{V\,min} \leq 2.0$.
Luminous intensity ratio in one packaging unit $I_{V\,max} / I_{V\,min} \leq 2.0$.

**Grenzwerte**
**Maximum Ratings**

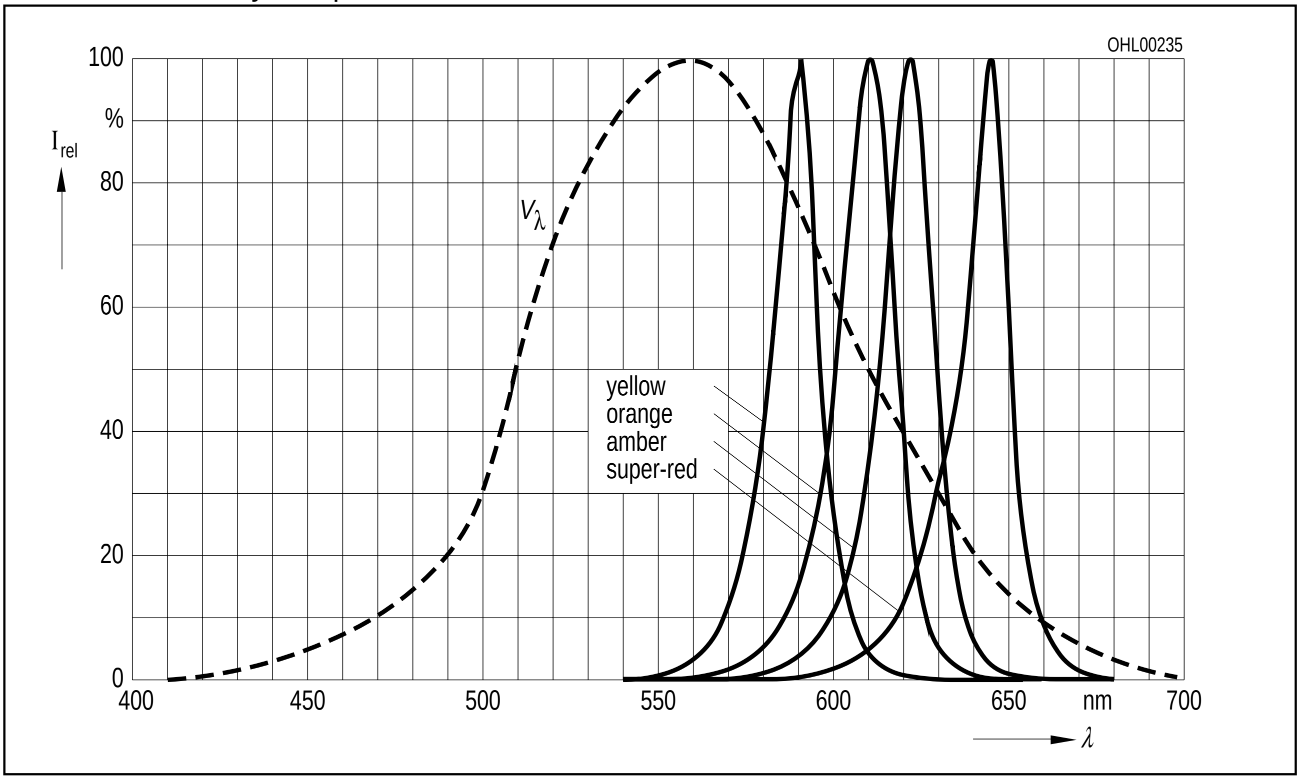
| **Bezeichnung**<br>**Parameter** | **Symbol**<br>**Symbol** | **Werte**<br>**Values** | | **Einheit**<br>**Unit** |
|---|---|---|---|---|
| | | **LS, LO, LA** | **LY** | |
| Betriebstemperatur<br>Operating temperature range | $T_{op}$ | – 55... + 100 | | ˚C |
| Lagertemperatur<br>Storage temperature range | $T_{stg}$ | – 55... + 100 | | ˚C |
| Sperrschichttemperatur<br>Junction temperature | $T_j$ | + 100 | | ˚C |
| Durchlaßstrom<br>Forward current | $I_F$ | 30 | 20 | mA |
| Stoßstrom<br>Surge current<br>$t \leq 10$ µs, $D = 0.005$ | $I_{FM}$ | 1 | 0.2 | A |
| Sperrspanung[1)]<br>Reverse voltage[1)] | $V_R$ | 3 | | V |
| Verlustleistung<br>Power dissipation<br>$T_A \leq 25$ ˚C | $P_{tot}$ | 80 | 55 | mW |
| Wärmewiderstand<br>Thermal resistance<br>Sperrschicht / Umgebung<br>Junction / air | $R_{th\ JA}$ | 500 | | K/W |

1) Belastung in Sperrichtung sollte vermieden werden.
1) Reverse biasing should be avoided.

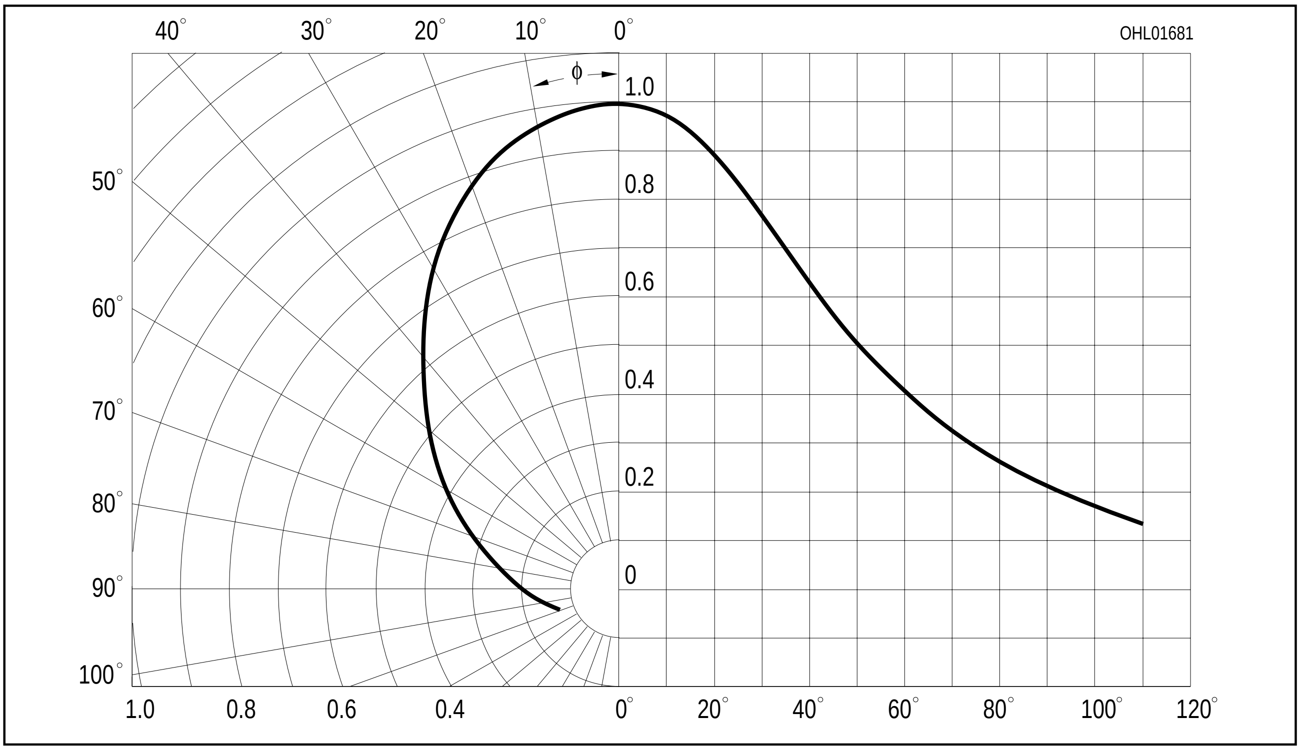
**Kennwerte** ($T_A$ = 25 °C)
**Characteristics**

| **Bezeichnung**<br>**Parameter** | | **Symbol**<br>**Symbol** | **Werte**<br>**Values** | | | | **Einheit**<br>**Unit** |
|---|---|---|---|---|---|---|---|
| | | | **LS** | **LA** | **LO** | **LY** | |
| Wellenlänge des emittierten Lichtes<br>Wavelength at peak emission<br>$I_F$ = 20 mA | (typ.)<br>(typ.) | $\lambda_{peak}$ | 645 | 622 | 610 | 591 | nm |
| Dominantwellenlänge<br>Dominant wavelength<br>$I_F$ = 20 mA | (typ.)<br>(typ.) | $\lambda_{dom}$ | 632 | 615 | 605 | 587 | nm |
| Spektrale Bandbreite bei 50% $I_{rel\ max}$<br>Spectral bandwidth at 50% $I_{rel\ max}$<br>$I_F$ = 20 mA | (typ.)<br>(typ.) | $\Delta\lambda$ | 16 | 16 | 16 | 15 | nm |
| Abstrahlwinkel bei 50% $I_v$ (Vollwinkel)<br>Viewing angle at 50% $I_v$ | | $2\varphi$ | 100 | 100 | 100 | 100 | Grad<br>deg. |
| Durchlaßspannung<br>Forward voltage<br>$I_F$ = 20 mA | (typ.)<br>(max.) | $V_F$<br>$V_F$ | 2.0<br>2.6 | 2.0<br>2.6 | 2.0<br>2.6 | 2.0<br>2.6 | V<br>V |
| Sperrstrom<br>Reverse current<br>$V_R$ = 3 V | (typ.)<br>(max.) | $I_R$<br>$I_R$ | 0.01<br>10 | 0.01<br>10 | 0.01<br>10 | 0.01<br>10 | µA<br>µA |
| Temperaturkoeffizient von $\lambda_{dom}$ ($I_F$ = 20 mA)<br>Temperature coefficient of $\lambda_{dom}$ ($I_F$ = 20 mA) | | $TC_\lambda$ | 0.014 | 0.062 | 0.067 | 0.096 | nm/K |
| Temperaturkoeffizient von $\lambda_{peak}$,<br>$I_F$ = 20 mA<br>Temperature coefficient of $\lambda_{peak}$,<br>$I_F$ = 20 mA | <br>(typ.)<br><br>(typ.) | $TC_\lambda$ | 0.14 | 0.13 | 0.13 | 0.13 | nm/K |
| Temperaturkoeffizient von $V_F$, $I_F$ = 20 mA<br>Temperature coefficient of $V_F$, $I_F$ = 20 mA | (typ.)<br>(typ.) | $TC_V$ | – 1.95 | – 1.78 | – 1.67 | – 2.51 | mV/K |

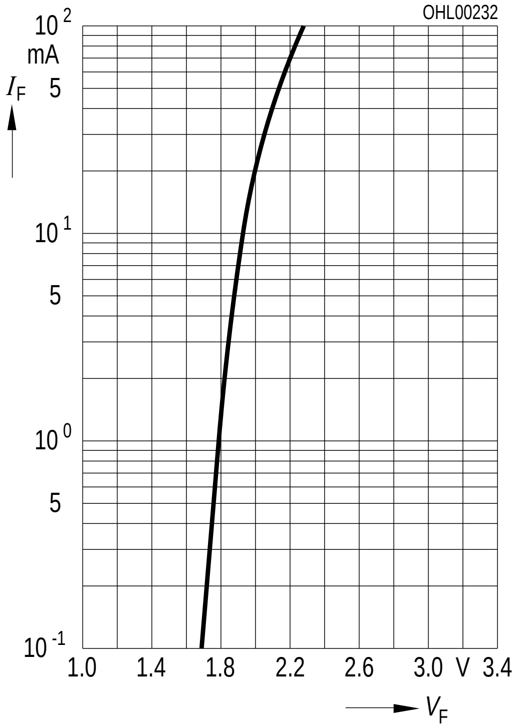
**Relative spektrale Emission** $I_{rel} = f(\lambda)$, $T_A$ = 25 °C, $I_F$ = 20 mA
**Relative spectral emission**
V (λ) = spektrale Augenempfindlichkeit
Standard eye response curve




**Abstrahlcharakteristik** $I_{rel} = f(\varphi)$
**Radiation characteristic**



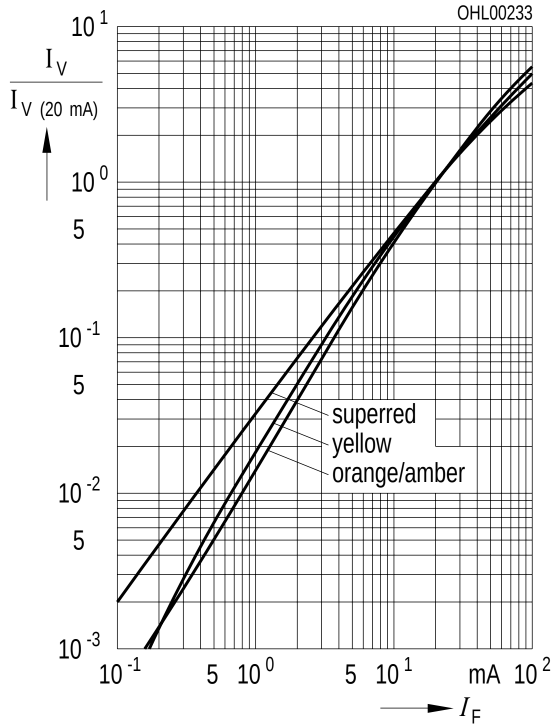
**Durchlaßstrom** $I_F = f(V_F)$
**Forward current**
$T_A$ = 25˚C



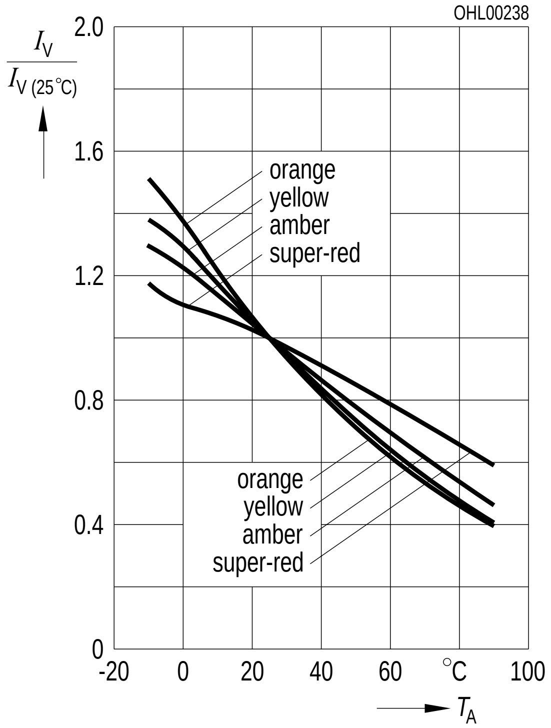

**Maximal zulässiger Durchlaßstrom**
**Max. permissible forward current**
$I_F = f(T_A)$



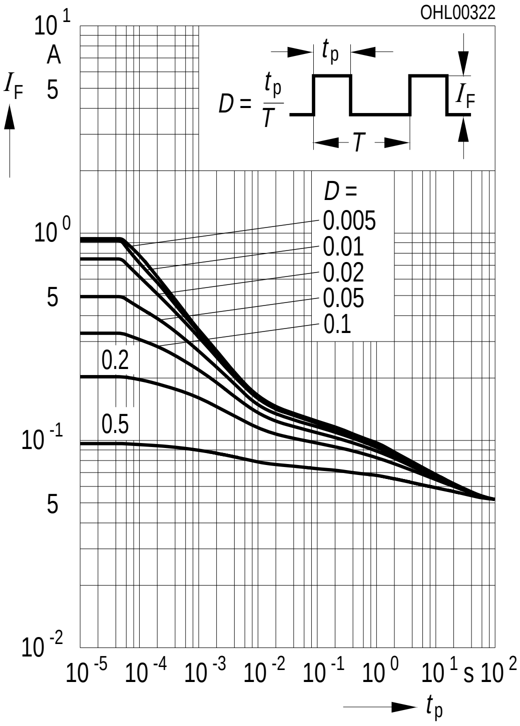

**Relative Lichtstärke** $I_V/I_{V(20\ mA)} = f(I_F)$
**Relative luminous intensity**
$T_A$ = 25˚C



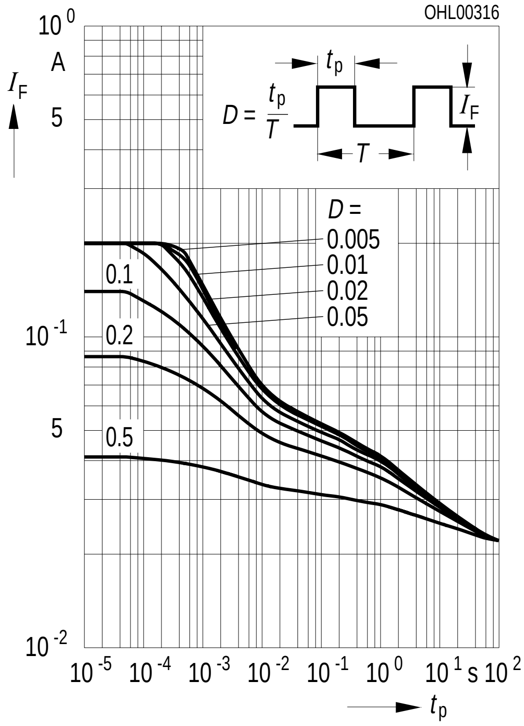

**Relative Lichtstärke** $I_V / I_{V(25°C)} = f(T_A)$
**Relative luminous intensity**
$I_F$ = 20 mA



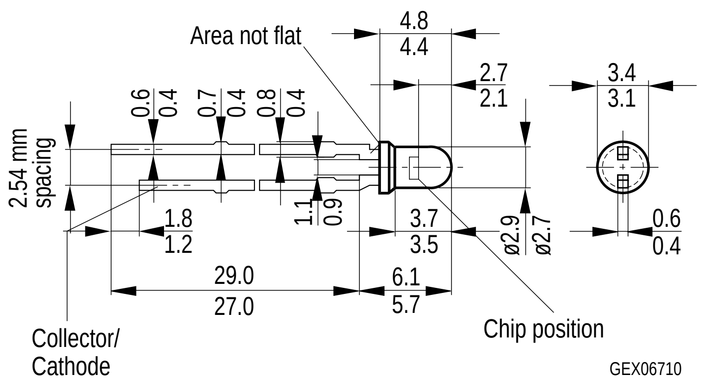
**Zulässige Impulsbelastbarkeit** $I_F = f(t_p)$
**Permissible pulse handling capability**
**LS, LA, LO**
Duty cycle $D$ = parameter, $T_A$ = 25 ˚C




**Zulässige Impulsbelastbarkeit** $I_F = f(t_p)$
**Permissible pulse handling capability**
**LY**
Duty cycle $D$ = parameter, $T_A$ = 25 ˚C




**Maßzeichnung** (Maße in mm, wenn nicht anders angegeben)
**Package Outlines** (Dimensions in mm, unless otherwise specified)




**Kathodenkennzeichnung:** Kürzerer Lötspieß
**Cathode mark:** Short solder lead